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ABSTRACT

A program was developed for improving the reading level of primary special education resource students in a progressive suburban community in the midwest. The problem was originally noted by an increase in the need for support services and low standardized test scores. Analysis of probable cause data revealed that students lacked knowledge of the relationship between reading and writing processes, and that they had inaccurate perceptions of reading and writing. In addition, a review of the district's general curriculum and textbooks revealed that academic concepts were taught in isolation. Solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of three major categories of intervention: development of activities for students to integrate the reading and writing process, communication of student-originated ideas in reading and writing, and demonstration of higher-order thinking through reading and writing. All strategic solutions occurred through curricular modifications and changes in teaching practices. All symptoms of the original problem were reduced as projected; students' integration of reading and writing improved, students' ability to communicate original ideas increased, and students demonstrated higher-order thinking skills through reading and writing. (Contains 36 references and 6 tables of data. A total of 18 appendixes presenting data, student writing samples, and checklists are attached.) (Author/RS)

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ED 371 321

INTEGRATION OF READING AND WRITING STRATEGIES IN PRIMARY EDUCATION RESOURCE STUDENTS TO IMPROVE READING PERFORMANCE

by

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the degree of Master's of Arts in Education

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Abstract

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DATE: April 26, 1994

TITLE: Integration of Reading and Writing Strategies in Primary Level Special Education Resource Students to Improve Reading Performance

ABSTRACT: The report describes a program for improving the reading level of primary special education resource students in a progressive suburban community in the midwest. The problem was originally noted by an increase in the need for support services and low standardized test scores in reading.

Analysis of probable cause data revealed that students lacked knowledge of the relationship between the reading and writing processes and that they had inaccurate perceptions of reading and writing. In addition, a review of the district's textbooks revealed academic concepts being taught in isolation.

Solution strategies suggested by researchers and combined with an analysis of the problem setting resulted in the selection of three major elements of intervention: development of activities to integrate the reading and writing process, communication of student ideas in reading and writing, and demonstration of higher-order thinking through reading and writing. All strategic solutions occurred through curricular modifications and changes in teaching practices.

All symptons of the original problem were reduced as projected; students' integration of reading and writing improved, students' ability to communicate original ideas increased, and students demonstrated higher-order thinking skills through reading and writing.

Chapter I

INTEGRATION OF READING AND WRITING STRATEGIES IN PRIMARY SPECIAL EDUCATION RESOURCE STUDENTS TO IMPROVE READING PERFORMANCE

Problem Statement

Primary special education resource students' abilities in reading and written language were inadequately developed to meet the regular curriculum requirements in the primary grade classroom as evidenced by 65 percent of learning disability students qualifying for supplemental reading programs and 50 percent qualifying for supplemental written language programs, as determined by students' standanzed intelligence and academic test scores.

Description of Immediate Problem Setting

Four hundred and eighty-five students attended this elementary school in a midwest suburban community. The student population consisted of 95 percent Caucasian, two percent Black, one percent Mexican-American, one percent Asian, and two-tenths of one percent Native-American children. Four percent of the student population had been identified as needing special education resource services. Data concerning family socio-economic status indicated 22 percent were in the low income bracket with 18 percent of the children on the free or reduced price lunch program. The mobility rate for students entering or leaving the building during the school year was 21 percent. A large percent of the families living within the school attendance area resided in rental property. Excess absenteeism and tardiness occurred in ten percent of the school population (School Report Card, 1992).

The academic team consisted of one principal, two and one-half kindergarten teachers, five first grade teachers, four second grade teachers, five third grade teachers, and one transitional first and one transitional second grade teacher. Support staff in the building included three Reading Recovery teachers in training, one Chapter I teacher, one special education resource teacher, one half-time speech and language clinician, one half-time nurse, a part-time social worker, and a part-time psychologist. Additional support staff consisted of one part-time physical education teacher, one half-time art teacher, one half-time music teacher, and one half-time learning center teacher. The years of teaching experience of the academic staff ranged from three years to 33 years, and 14 teachers had masters degrees. The office staff consisted of one secretary, two part-time office aides and four part-time resource aides, who assisted in teacher material preparation.

The school was located in a residential area. Each classroom was a self-contained room. Time devoted to the teaching of core subjects for a five day week was as follows: reading 10 hours per week, language arts 3 hours per week, math 5 hours per week. The district used the Holt, Rinehart, and Winston reading and social studies series (1986), the McMillan / McGraw-Hill math series (1991), and Merrill science series (1985) from kindergarten through sixth grade. The Houghton-Mifflin english series (1990) was used by grades second through sixth. Students were grouped according to reading ability. A whole language approach was used to enhance students reading and writing skills. The first grade classrooms also used the Basic Phonics Series to teach phonics.

Surrounding Community

The school district served a progressive suburban community of 33,000 residents. The district was located adjacent to a metropolitan area. Two cities made up the district's 20 square attendance miles. The median household income was $31,147 and $33,791 for the two cities. Seven and eight-tenths percent of the community's residents were retired. The unemployment rate was four and five-tenths percent. Females made up 13 percent of the heads of households.

The average age was between 30 and 44. The work force consisted of 41.2 percent blue collar, 40.2 percent gray collar, and 18.5 percent white collar workers.

The community was experiencing gradual residential and commercial growth. This was primarily due to the development of open land throughout the northern part of the school district. As the community was growing, the school population was also gradually increasing. The district's small minority population, one percent, was integrated through the district's curriculum which had been carefully developed to provide students with an understanding of ethnic groups, their cultures and the important contributions of all groups of Americans.

The district's flat topography and concentrated population allowed the district to provide education in neighborhood schools. Minimal bus transportation for students was provided. Students who lived more than one and one-half miles from school were eligible for transportation on district-owned buses.

The community was vocationally oriented. Fifteen percent of graduated seniors attended a local junior college. Eight percent of the graduates went on to a four year university.

The student population of the district was 5,676. The ages of the students ranged from three to twenty-one. Special education services were available to mentally impaired, hearing impaired, visually impaired, physically disabled, speech and language impaired, and learning disabled children. Due to the district's growing population, the school board recommended a redistricting of attendance boundaries and the opening of previously closed buildings.

The central office administration consisted of a superintendent, an assistant superintendent, a business manager, a director of human resources and labor relations, and a director of special education. An elected school board met twice monthly. Its responsibilities were to deal with situations pertaining to budget, curriculum, staffing, facilities, and discipline.

State and National Context of Problem

Nationally, longitudinal studies (Pinnell, 1989) showed that children who made poor beginnings in reading and writing tended to stay behind year after year, not changing their rank in the school group. Despite considerable investment of money, time, and commitment to compensatory education, many children remained at risk of failure, especially in reading, an area where large numbers of low-achieving children received extra help year after year.

Although many questions and issues surrounded efforts to help at-risk children, most educators, as well as the general public were acutely aware that the number of people at risk was increasing. According to Smith (1993), executive director of the Rockford Area Literacy Council, 50 percent of adults nationwide were illiterate. The state of Illinois fell within the 34th percentile in state literacy rating (Secretary of State Literacy Office, 1992). Functionally illiterate adults were unable to fill out an employment application, read a medicine bottle label or newspaper, locate a telephone number in a directory, use a bus schedule, or do quality comparison shopping. When confronted with printed material these people could not function effectively. (Rockford Register Star, 1993). There was general agreement that efforts to help children to become literate was of national concern.

Teachers may have contributed to poor reading performance by providing inadequate instruction. It was found that the type of instruction delivered to poor readers differed from the instruction given to good readers. Allington (1983) suggested that increased instructional reading time produced higher achievement levels. Observations within the regular classroom setting indicated poor readers were more off-task and less engaged in reading than good readers (Allington, 1983).

Studies had shown that poor readers spend less time reading silently than good readers (Allington, 1983). The instructional activities provided to poor readers tended to rely on decoding strategies rather than actively engaging the student in the text.

Poor readers over-attended to visual information and sounded out every word (Lyons, 1989). This approach to reading made it more difficult for poor readers to enjoy reading and they found the reading process tedious and boring.

Observations of classroom instruction found higher level comprehension questions directed to students with better reading skills. Prior theories had suggested students learned to read through a sequential process. More recent evidence suggested that more advanced reading skills, which relied on higher order thinking, should be part of the instructional program for poor readers (Means and Knapp, 1991).

The problem of limited reading progress was evident by an increase number of students and adults with deficits in reading performance and an increase in the number of programs that were developed to meet the needs of struggling readers. The type of instructional practices used to assist poor readers was also in question. According to a statewide study (Illinois Reading Recovery Project, 1991) a depressingly large percentage of students who did not learn to read by the end of first grade went on to fail in later grades. They suffered from poor self-esteem and were candidates for retention or special education. They were likely to become apathetic, troublemakers, or dropouts. Most existing remedies for failing readers were expensive and on the whole, not very effective.

Chapter 2

PROBLEM EVIDENCE AND PROBABLE CAUSE

Problem Background

As pointed out in Chapter I, primary age student reading abilities are inadequately developed to meet the district curriculum requirements. Academic concerns were evidenced by the implementation of a variety of supplemental reading programs. The district implemented the Rising Stars program for preschool children at risk of academic failure. School age programs included Chapter I services for kindergarten and first grade, Reading Recovery services at the first grade level, and special education resource services for students who displayed a learning disability.

The Rising Stars goal was to assist developmentally disadvantaged students to become ready for school. The program included both children and their parents in a wide variety of activities, field trips, and technology. The staff included a full-time early childhood teacher, one half time social worker, and a classroom paraprofessional. Identified children throughout the district were provided transportation to one elementary school. The program was fully implemented during the second semester of the 1992-1993 school year.

Chapter I reading services had been provided to students in grades two through eight until a pilot program for services for first grade students was implemented during the 1989-90 school year. Chapter I services were implemented district-wide to first graders during the 1990-91 school year. During the second semester of the 1992-93 school year, services were expanded to include kindergarten. In order for the district to include kindergarten and first grade students,

upper grade services were reduced. The focus of the program was changed to intervention in the early primary grades.

During the 1992-93 school year, Reading Recovery was implemented as a pilot program in one elementary building. Reading Recovery's goal was to reduce the number of students exhibiting difficulty with reading and writing. The benefits of Reading Recovery were not only an improvement of reading skills in students who showed early signs of difficulty but also an improvement in student writing skills. (Deford, 1991 and Clay, 1985). Funded by a state grant, the Reading Recovery program employed eight half-time reading teachers, all of whom had extensive in-service training before implementing the program. A Reading Recovery coordinator assisted in the implementation of the program.

Special education resource services were provided to students who displayed a learning disability which was a significant discrepancy between intellectual potential and academic achievement. Students received additional instruction in the resource classroom in the area of delay. Material and methods of instruction differed from the regular classroom instruction. The theory was that learning disabled students needed alternative methods for learning because of their learning disabilities.

Problem Evidence

The school district increased its efforts and funding to meet the needs of reading-delayed students in the early primary grades. This effort was evidenced by an increase in the number of support services to students who had reading delays, Rising Stars and Reading Recovery. The number of students identified by special education as needing resource level services had also increased. This was evidenced by increased caseload sizes and additional resource teachers hired to meet the need of the growing learning disabled population. Student needs were assessed through referrals based on teacher evaluations, standarized test scores (Appendix A, 43), and reading levels at which students were functioning.

Table 1

Basal Reading Levels of Resource Students
August 28, 1993

Grade Level	Number of Students	Actual Basal Reading Level	Basal Level Grade Equivalent	Grade Basal Reading Level	Basal Level Grade Equivalent
1	3	3	1 0	3	1 0
2	5	7	1 4	9	2 0
3	2	9	2 0	11	3 0
3	1	10	2 5	11	3 0

Table 1 indicates a growing disparity in student classroom reading levels as they progressed through the years. Levels 3 through 8 are first grade reading books, levels 9 and 10 second grade reading books, and levels 11 and 12 third grade reading books. Special education resource first grade students began at the same reading levels as their peers. Second grade resource students were at a mid-first grade level, level 7, at the beginning of second grade. By third grade the resource students were a grade level behind in the reading series. Two third graders were beginning level 9, a first semester, second grade book. One third grader was beginning level 10, a second semester, second grade book.

The philosophy of the third grade teacher who had students beginning the level 9 reader, was to have them progress through the reading levels at a rapid pace, completing three reading levels instead of the the normal two by the end of third grade. The students would be required to read two stories per week, rather than the normal one story. They also were required to complete the accompanying workbook pages, which was twice as much as the average third grader.

Table 2 indicates a similar trend of increasing discrepancies between reading achievement and grade level in resource students. The discrepancies between standarized test results and grade

level increased with each grade. The discrepancies between test scores and grade level showed a five month delay in second graders. By third grade, student test scores averaged a one year delay.

Table 2

Standardized Reading Test Scores
of Resource Students
August 28, 1993

Grade Level at Testing	Reading Scores	Differences Between Grade Level and Reading Scores
1.2	<1.0	.2
1.2	<1.0	.2
1.2	<1.0	.2
1.8	1.1	.7
1.8	1.4	.4
1.8	1.6	.2
1.9	1.4	.5
1.9	1.5	.4
2.0	1.2	.7
1.8	<1.0	<.8
2.7	1.4	1.3
2.7	1.7	1.0
3.0	1.8	1.1

It should be noted that of the twelve resource students currently receiving supplemental reading services, six were new to the resource program for the 1993-94 school year. All first grade students were previously identified as learning disabled and received special education services; two of the six second graders and one of the three third graders had received special education resource services in the past. Four students new to the resource progam were in transitional classrooms as prior intervention. Three students were retained at a grade level. Despite the different interventions for students with reading problems, the gap between their grade level and achievement showed an increase as they advanced through the grades.

Probable Causes of Problem

Data to indicate probable causes were gathered from two sources, interviews and an analysis of curriculum. The intention of the interview was selected to determine students' attitudes and perceptions of the reading and writing process. Hillerich (1990) reported a significant relationship between reading success and early knowledge of the purpose of reading. An analysis of the district's general curriculum and textbooks was completed to evaluate the integration of reading and writing instruction at the primary level (Appendix B: 44).

An analysis of the reading interview , designed by Hillerich (1990), indicated the majority of students shared similar perceptions and attitudes toward reading (Appendix C: 45). They enjoyed reading and writing stories and had experienced books at home. They could name a favorite book and indicated a member of the family who read to them at home. Half of the students interviewed had library cards. When asked how they knew they were reading well, most stated external reinforcements, rather than internal factors. When confronted with a word they did not know, the majority stated that they would ask someone rather than rely on reading strategies or contextual clues.

Probable cause data from the literature (Sahahan, 1990) indicated a need to integrate the reading and writing processes throughout the curriculum and to further create purposeful reading and writing to demonstrate higher order thinking skills. If reading and writing were taught together, skills would show improvement in both areas. The integration would foster critical thinking.

A review of the school district's MacMillan/McGraw/Hill (1991) math textbook, revealed manipulatives were available in the students' texts. These manipulatives were used to stimulate hands-on activities and share ideas, as well as for use in cooperative groups. Critical

thinking skills involving problem solving and reasoning skills were available in various forms within each lesson. Throughout the text there were multiple curriculum connections which linked math to science, art, music, social science, and language arts. The text also provided opportunities for students to apply math skills to situations through written language.

The Houghton-Mifflin English textbook (1990) stressed process writing through direct instruction and modeling. Student writing was applied to different curriculum areas. Language skills were applied to each writing activity. There were multiple types of writing opportunities. Teacher evaluation determined the best sequential order to follow through the textbook. The textbook encouraged student expression in written form.

A review of Holt, Rinehart and Winston (1986) reading textbook revealed a three step implementation plan for each story: preparing to read, reading and comprehension, and developing and applying skills. Questions for teacher-guided reading consisted of inferential thinking and literal understanding. Critical thinking skills were revealed in making judgments through context and picture clues. Critical thinking skills were lacking in most areas. Prewriting skills failed to incorporate brainstorming or graphic organizers. There were limited follow-up writing activities. Higher-order thinking skills, opportunities for students' original writing, and integration of reading and writing skills were neglected in the reading series.

A review of the Holt, Rinehart and Winston social studies (1986) and Merrill science (1985) textbooks revealed supplementary materials consisting of worksheets and tests were available in the from of multiple choice and fill-in-the-blank questions. There were limited opportunities for children to demonstrate higher-order thinking skills in either content area. In both texts, enrichment and extension activities involved listing, labeling, drawing, and charting. Cognitive tasks were concentrated in the gathering information stage. The tasks directed students to name, locate, and describe. Higher-order questioning techniques were left to the discretion and creativity of the teacher.

Curriculum analysis indicated newer textbooks such as math and English, addressed a more integrated curriculum with more higher-order thinking skills. The reading series, and science and social studies textbooks did not address these issues thoroughly.

Chapter 3

THE SOLUTION STRATEGY

Review of the Literature

Analysis of probable cause data suggested that lack of reading progress could be attributed to students' attitudes and perceptions toward the reading process itself and the curriculum's lack of integrating the reading and writing processes. The literature search for solution strategies found reading deficits were easier to remediate when addressed within the early grades. The literature also indicated that pull-out programs and specialized programs were ineffective in bringing students up to adequate levels of performance. Educators showed an increased interest in reading and writing strategies that could be implemented within regular classroom settings.

Research regarding the benefits of full-day versus half-day kindergarten programs in teaching basic skills, reducing grade retentions and special education referrals was inconclusive. It was observed that full-day kindergarten programs were designed to prevent or remediate academic delays in disadvantaged children (Peskin, 1986) and to meet the needs of working women (Salzer, 1982). The full-day programs implemented a more structured academic curriculum with an increased use of support staff than the half-day program. Some research showed that short-term gains were achieved in full-day kindergarten programs for educationally disadvantaged children when the extended time in the classroom continued to emphasize academic skills (Puleo, 1988; Karweit, 1992).

There was conflicting evidence regarding the number of special education referrals of children completing a full-day kindergarten program. Three studies of the number of special education referrals were cited in Puleo (1988). Evans and Marken (1983) found a higher number of referrals, the Madison Metropolitan report (1985) found no difference in the number of referrals, and Nieman and Gastright found fewer referrals. The Nieman and Gastright study (1981) found fewer referrals of children who attended a full year of preschool prior to kindergarten.

Less conflicting evidence existed regarding retention of children who completed a full-day versus a half-day kindergarten program. For those who had completed a full-day kindergarten program, it was determined that the number of students retained at the end of third grade was ten percent lower than for those who had completed half-day programs. A ten percent reduction in the number of retentions could greatly affect a school district's financial situation (Puleo, 1988).

Researchers not only looked at the issue of whether a full-day kindergarten experience promoted success in the later grades but also how children came to kindergarten at different levels of readiness for reading. Attention was focused on the use of phonics or whole language to teach reading at the kindergarten level. Stahl and Miller (cited in Karweit, 1992) reviewed studies that compared whole language and language experience which integrated the use of written language to the use of basals for the teaching of reading. 17 studies favored using whole language and language experience, 14 studies found no difference in the type of approach, and two studies favored the use of basals (Karweit,1992). This suggested that the use of a reading approach that integrated reading and writing could be effective.

Special classrooms such as the nongraded and transitional classrooms were developed to address low academic gains in students. The nongraded primary concepts let pupils develop at their own pace. Student grouping encompassed a range of two to four years allowing movement between levels. Students stayed with the same teacher and the older children helped teach the younger students. The nongraded classroom was designed because individual grade levels were too restrictive to meet the individual student needs (Conell,1988). Goodlad and Anderson

(cited in Cohen, 1990) argued that textbooks keyed to grade levels nurture conformity and tempt teachers to cover material whether or not it is appropriate to the wide range of individual differences among pupils. Nongraded classrooms was one type of strategy designed to implement developmentally appropriate primary grade curriculum. Nongraded schools were viewed as unsuccessful (Cohen, 1990).

Transitional classrooms were designed to address the increasing number of children who failed to master the content of kindergarten curriculum and were identified as unready for the first grade (May and Kundert, 1993). Transitional classrooms were designed to prepare students for the next grade by reteaching skills that had not been mastered rather than reteaching the entire previous curriculum. Advocates for and against transitional classrooms agreed the transitional classroom misdirected energies that would be used to change the curriculum within the regular classroom setting (Bredekamp, 1990).

Evidence showed that programs which pulled students out of the regular education setting and provided additional reading services had little effect on students' long-term remediation (Slaven, Karweit, Wasik, 1993). The Chapter I remediation program serviced students in low income areas. The services provided students with similar reading delays small group reading instruction. Research indicated that Chapter I services had little affect past the third grade level (Slavin, et al.). Analysis of the failings of the Chapter I program suggested that remedial instruction set low expectations for the students and depended on a slow, plodding pace for basic sequential skill instructions. These shortcomings were evidenced by an annual gain in reading of one twenty-first of a standard deviation per year (LeTendre, 1991). This small reading gain made it difficult to change the long-term reading level of the students. Chapter I recognized its shortcomings and revised its teaching strategies and its program goals. Chapter I was a pull-out program, where students were removed from the regular classroom setting and given special reading instruction. The program's goal was to coordinate its efforts with the regular classroom

teacher and use instructional strategies and materials which complemented the regular program. The concept was that if the reading processes were similar, the information would transfer easier into the regular classroom setting.

Chapter I looked beyond basic skills and set higher expectations for students. The Hawkins-Stafford School Improvement Amendment of 1988 made dramatic changes in Chapter I services (LeTendre, 1991). The amendment called for several improvements. It provided opportunities for flexibility and creativity and stressed higher-order thinking skills. The amendment called for accountability of student performance and made it the responsibility of the school and parents.

The special education resource program was another pull-out program which demonstrated little overall success in remediating students with mild reading delays. A large percentage of students with learning disabilities remained in special education programming throughout their school career (Halgran and Clarizio, 1993). Studies indicated students within the resource room were actively engaged in learning a majority of the time, but when the students went back to the regular classroom, they became passive learners (Reid, Baker, Lasell, and Eastina, 1993).

Special education resource programs separated the students from the mainstream and substituted a more repetitive, task-oriented curriculum. This curriculum served to intensify the disparity between real life and textbook-based reality (Reid, et al., 1993). Special education failed to give meaningful alternatives to students who, without support, could not suceed within the regular classroom.

Studies showed an interrelationship between academic skills and social skills. Social interaction determined how people thought, interacted, communicated, and transmitted what they knew. Within group settings, special education students were able to make connections easier between reading and the real world, through social interaction. Resource programs began to see socialization as an important element to learning (Hoover and Collier, 1992).

Special education resource classrooms revised student instruction to a more intergrated curriculum. This was accomplished through instruction that revolved on reading.

comprehension and writing. Integration of the curriculum served as a means of connecting students to the social and physical world through school experiences. It created opportunities for students to develop decision-making skills and to become aware of how they viewed the world. When learning was relevant and personal, it lead to internal motivation to learn (Reid, et al., Keefe and Keefe, 1993).

The focus of pull-out programs radically changed. Evidence presented showed that suggested learning was based on a holistic approach, risk taking, and prior knowledge, rather than on discrete skills. Both Chapter I and special education resource have refocused efforts on developing curriculum based on a student's past experiences: both personal, social and interrelated. Reading and writing curriculums appeared to be an integral process of this change.

Reading Recovery was an early intervention program for first grade students experiencing difficulties learning to read. The program was directed at the bottom 20 percent of first graders. It was a one time intervention that came at the earliest stage of the child's schooling. The goal of Reading Recovery was to accelerate students and to help them develop into independent readers so that they could read with the average students in their class without further help.

Reading Recovery required one-to-one individualized instruction, but only for an average of 12 to 16 weeks. It was a supplemental pull-out intervention program that did not replace the regular classroom reading and writing instruction, but enhanced the reading program. Each Reading Recovery lesson included reading many "little" books and also composing and writing a message or brief story. During these holistic reading and writing tasks, teachers used special techniques to help children become effective readers and writers. The intent of Reading Recovery was to make a student aware that reading and writing were interconnected (Clay, 1982).

The effective intervention of Reading Recovery required an initial investment of materials and extensive teacher training. It was a long-term, cost-beneficial intervention. The savings due to implementation of Reading Recovery were achieved through the reductions in retentions, Chapter I services, and special education placements. Reading Recovery offered a short-term

intensive program that was an educationally sound and cost-effective as an alternative to more commonly used approaches.

In 1984, Reading Recovery was introduced to the United States by Dr. Marie Clay. Ohio State University, the Ohio Department of Education, and the Columbus Public Schools joined forces to implement Reading Recovery in Ohio. Results from this pilot study were very positive (Huck and Pinnell, 1985). A longitudinal study conducted in the Columbus Public Schools found that a high proportion of children serviced by Reading Recovery demonstrated sustained progress through the third grade without further intervention (Pinnell, DeFord, and Lyons, 1988). The MacArthur Foundation awarded the Reading Recovery faculty at Ohio State University a grant to compare four other reading interventions, each of which contained elements similiar to those in Reading Recovery. This study, known as the Early Literacy Research Project, found that Reading Recovery, with its emphasis on reading and writing integration, was significantly more effective than the other approaches (Pinnell, et al .,1988).

Project Outcomes

The terminal objective of this problem intervention was related to the discrepancy data presented in Chapter 2. Scores indicated that despite the intervention strategies for special education resources students, they continued to fall behind their grade level in reading achievement. The gap between reading achievement and grade level widened as they became older, despite efforts of retention, transitional classrooms, Chapter I services, and special education resource services.

Probable causal data from the literature indicated a need to integrate the reading and writing processes throughout the curriculum while concurrently advancing higher order thinking skills. Therefore:

> As a result of curricular modifications and changes in teaching practices during the first semester of the1993-1994 school year, primary students

will develop a meaningful purpose for reading and writing as measured by student interviews, and the number of students reading below grade level will decrease as measured by teacher evaluation of student performance.

In order to accomplish the terminal objectives, the following intermediate objectives defined the major strategic procedures proposed for problem resolution.

1) As a result of curricular modifications and changes in teaching practices, activities for students to integrate the reading and writing processes will be developed.

2) As a result of curricular modifications and changes in teaching practices, the students will apply reading and writing to communicate their own ideas.

3) As a result of curricular modifications and changes in teaching practices, the students will use reading and writing to demonstrate higher-order thinking skills.

Proposal Solution Components

The major elements used to reduce the reading discrepancy between student achievement and grade level expectancy involved incorporating writing within the reading program. The first element involved providing students with activities that integrated the reading with the writing process. The second element involved writing activities which provided students the opportunity to communicate their own ideas from what they read. The final element involved activities which required students to use higher-order thinking to demonstrate how they could incorporate new information they read into existing schema. These elements related to the terminal objective in that they attempted to change the perceptions of reading from isolated word units into

meaningful activities. Discrepancy data indicated a large percentage of students were below the reading expectations of the grade level and continued to fall behind despite interventions. Probable cause data indicated inaccurate student perceptions of the reading and writing process and inappropriate curriculum design were factors that contributed to the delays in reading.

Chapter 4

ACTION PLAN FOR IMPLEMENTING THE SOLUTION STRATEGY

Description of Problem-Resolution Activities

The action plan was designed to address three major solution components: integration of the reading and writing processes throughout the curriculum, increased communication of student ideas in written form, and improved student usage of higher-order thinking skills through reading and writing activities.

The curriculum development phase of the plan began in the fall of the 1993-94 school year with bi-weekly meetings of four primary grade teachers in the target elementary school. Using needs assessment data, collected at the end of the previous year, the group designed lesson plans which integrated reading and writing strategies for reading improvement.

The implementation plan began with an after school team meeting in September and continued on afternoons bi-weekly throughout the school year. The purpose of the meeting was to organize and share the effects of the classroom implementation. The improvements sought in the implementation plan included: increased frequency of student writing and reading, improved student attitudes about reading and writing, and established gains in reading levels. The implementation plan is presented below in outline form, allowing for the overlapping of strategies.

1. Develop activities for students to integrate reading and writing process through the curriculum.
   - A. Who: A committee of four teachers design curricular modifications and changes in teaching practices.

B. What: They create lessons integrating reading and writing processes throughout the curriculum.

C. When: This occurs during the first semester to the 1993-94 school year.

D. Where: Committee meets bi-weekly in an elementary building after school in hour - long sessions.

E. How: They use resource materials collected over the past year, as well as individual staff expertise.

F. Why: The lessons are used as a resource for committee members during the first semester, thus insuring integration of the reading and writing process.

2. Increase student ability to communicate ideas in reading and writing.

A. Who/What: The teacher implements lessons to encourage students to express ideas in the written form and read finished product before an audience.

B. When: These selected lessons are given throughout the instructional day during the first semester of the 1993-94 school year.

C. Where: The setting is a primary public elementary school classroom.

D. How: Decisions are reached in committee meetings.

E. Why: To increase students use of communication skills.

3. Improve student usage of higher-order thinking skills through reading and writing activities.

A. Who/What: The teacher implements lessons to encourage student demonstration of the higher-order thinking skills of sequencing, comparing/contrasting, describing personal reactions, and predicting.

B. When/Where: Selected lessons are given throughout the instructional day in a primary public elementary classroom during the first semester of the 1993-94 school year.

C. How: Through the use of higher-order thinking resource materials.

D. Why: Research indicated the development of higher-order thinking skills was related to improvement in reading and writing (Costa, 1991).

Method of Assessment

The data collection methods used to assess the effects of integrating the reading and writing included portfolios, counsultations with the regular classroom teacher, observations of students during resource classes, student interviews, and standardized academic tests. Portfolios were assessed at the end of each quarter. Consultation with the regular classroom teachers was included periodically within the grading periods, and formally at the end of each quarter. Student observations were documented on a regular basis within the resource room upon completion of the daily lessons. Student interviews and standardized reading tests were administered at the end of the semester. Student interviews were compared to the pre-test given at the beginning of the school year. Standardized tests were compared to tests administered between the spring of 1993 and the fall of 1993.

Analysis of student portfolios was used to show the ability to communicate what was read through written form. The goal was to analyze five writing areas, some involving higher-order thinking. The student portfolios contained writing samples which demonstrated student understanding of facts and sequence of events read. Writing samples included samples of student reactions and predictions of what was read. Finally, students demonstrated the ability to compare and contrast new information they read with existing information. Reading selections involved the areas of literature, science, social studies, and mathematics.

Chapter 5

EVALUATION OF RESULTS AND PROCESS

Implementation History

The terminal objective addressed the inadequate development of reading and writing skills required for the primary grade curriculum. Test scores and observations indicated 65 percent of students identified as learning disabled were in critical need of remediation in reading. Therefore, the terminal objective stated:

> As a result of curricular modifications and changes in teaching practices during the first semester of the 1993-94 school year, primary students will develop a meaningful purpose for reading and writing as measured by student interviews; and the number of students reading below grade level will decrease as measured by teacher evaluation of student performance.

Development of a curricular component to address the delays in reading in the elementary grade classroom began with a review of the discrepancy data. The data indicated a large percentage of students were below the reading expectations established for each grade and these discrepancies increased through the grade levels. Probable cause data indicated inaccurate student perceptions of the reading and writing process and inappropriate curriculum design were factors that contributed to the delays in reading. Inappropriate curriculum emphasized learning isolated reading skills, failed to provide reading practice, and used comprehension questions involving low level thinking skills. These practices did not support reading for meaning. The intervention program took place at the beginning of the 1993-94 school year and lasted until March of the same school year.

The program had three components that attempted to change the perceptions of reading from isolated word units to meaningful information. The first element involved providing students with activities that integrated the reading with the writing process. At the first grade level student writing activities involved using reading skills of consonant and short vowel sounds, patterning of words containing consonant-vowel-consonant, rhyming words, basic sight vocabulary, periods and question marks (Appendix D: 46). Second grade students were involved in writing activities which used R-controlled words, vowel digraphs and diphthongs, structual analysis, contractions, and quotation marks. Third grade student writing activities used vowel digraphs and diphthongs, and structural word analysis. After a particular phonetic rule had been taught and practiced, students wrote sentences or stories using the rule (Appendix E: 47). Students also summarized a story in writing that they had read (Appendix F: 48).

The second element involved writing activities which provided students the opportunity to communicate their own ideas. First grade students were involved in describing events from their own experiences or from what they had read. At the end of reading class, students were given time to write in their journal (Appendix G: 49). Second grade student writing involved sequencing events about a story and pretending that they were characters from the book. For example, at the end of a story, students were asked to pretend that they were characters in the story and, using quotation marks, write what that character might have said in the story. Another activity involved sequencing events from a story in their own words. Third grade student writing involved integrating what they knew with what they had learned from another class, such as science class (Appendix H: 50). Another activity for third grade involved writing a narrative as if they were the character in a story (Appendix I: 51).

The final element involved writing activities that required students to use higher order thinking skills to demonstrate how they could incorporate new information that they had read into existing schema. First grade student writing activities were primarily describing, sequencing, analyzing,

and predicting. In one activity, students were asked to think of an animal and then write descriptive sentences describing that animal. Other students were asked to guess what animal the author was describing (Appendix J: 52). For another first grade activity students were asked to write a story problem for a mathematical statement (Appendix K: 53). Second grade student activities involved sequencing, applying principles, imaging, and predicting. Third grade student activities focused on the higher order thinking skills of analyzing, imagining, predicting, illustrating, and applying what they knew to what they had learned. Such an activity involved integrating what they knew about a subject and what they had learned after reading about it and writing several paragraphs (Appendix L: 54). Another third grade activity involved writing a persuasive paragraph about a subject (Appendix M: 55). During the intervention, higher-order questioning was directed to the students to answer orally. Although the writing skills involving higher-order thinking were limited, student exposure to higher-order questions and metacognition through teacher directed questioning was present at all grade levels.

Presentation and Analysis of Project Results

In order to assess the effects of the planned intervention, student standarized test scores, classroom and resource room reading levels, student reading performance, student interviews, and narratives by classroom teachers were evaluated. Table 3 summarized pre- and post-standarized test data in reading from the September to March 1993-94 school year. Four students were omitted from the post-test results because they had moved away during the school year. Test scores of the remaining students varied widely in both grade equivalent and standard scores. Increases in reading scores at the end of a six month period ranged from a two month to a ten month gain, or an increase in standard scores ranged from two points to fourteen points. Of the nine students from the post-test data, seven students made gains in standard reading scores, while two students showed a decline in standard reading scores--one student's standard score increased from 1.4 to 1.7 and 1.4 to 1.6.

Table 3

Standardized Test Results
of Special Education Resource Students
Who Qualified for Reading Services
for the 1993-94 School Year

Student Number	Grade Level	Standard I Q Test Result	Reading Results in Grade Equivalent		Reading Results as Standardized Scores	
			9/93	3/94	9/93	3/94
1	1	100	< 1.0	< 1.0	63	77
2	—	—	—	—	—	—
3	—	—	—	—	—	—
4	2	124	1.5	2.2	86	88
5	2	92	1.1	2.2	80	89
6	2	96	1.2	2.0	89	97
7	2	85	1.6	2.1	80	85
8	2	91	1.4	1.8	78	81
9	2	85	1.4	1.6	85	79
10	—	—	—	—	—	—
11	3	100	1.8	2.8	79	89
12	—	—	—	—	—	—
13	3	101	1.4	1.7	78	76

Standardized I Q. test included: Stanford Binet Intelligence Scale, Kaufman Assessment Battery for Children, Wechsler Intelligence Scale of Children (Third Edition)
Standardized academic tests included: Kaufman Test of Educational Achievement, Woodcock Johnson Psycho-Educational: Academic Achievement, Woodcock Johnson Psycho-Educational: Academic Achievement (Revised)

The standard scores give a more accurate picture of student gains. The range of the individual scores on the standardized reading test exhibited large individual differences and no general conclusion can be drawn from standardized test data. Individually, the largest gain was made by a first grader whose standard score in reading increased from a 63 to 77. This student received supplemental resource services in the area of reading for 30 minutes a day, four days a week. Another student in the reading group was an inclusion student functioning within the educable mentally impaired range.

Students in the second grade reading group received 30 minutes of resource reading instruction four to five days a week depending on the individual student's schedule. The second grade reading group was comprised of seven to nine students during reading instruction. Attendance and tardiness of several students was a factor during several of the instructional periods. Resource attendance records indicated that three students had chronic tardiness and absenteeism. One individual was tardy an average of 40 percent per quarter and absent 33 percent of the third quarter. Another student was tardy an average of 27 percent per quarter. A third student was tardy 42 percent the second quarter and absent 24 percent the third quarter. These students demonstrated small gains on standarized test scores.

Three third grade students received resource services 30 minutes a week for four days in the area of reading. One student left the program to be taught at home. During the course of the school year the remaining two students were divided because of the wide difference in reading performance. One third grade student who increased her standard reading score ten points or one grade level, had received resource services one year prior to the intervention. The second third grader received resource services at the beginning of the 1993-94 school year. His test data evinced a decline in his standard reading score.

The I.Q.s for the students were examined to see if these had any impact on the reading scores. All but two of the students tested were within the average range of intelligence. One student with an I.Q. within the high average range improved his reading score by two standard points. A student whose I.Q. was within the low average range increased her standard reading score by five points. The data did not indicate a relationship between pre- and post-test scores and intellectual ability.

The reading levels of students in September were compared to reading levels at the end of March of the 1993-94 school year (table 4). Reading levels of two students in the second grade and two students in third grade were performing at grade level or one semester below grade level at the end of the intervention. Two second grade students remained two reading levels behind.

or one grade level. Two second grade students could not be evaluated by reading levels because they were in a transitional classroom setting. The transitional classroom did not use the district's reading levels but instead used a supplemental reading program. This transitional placement was considered a retention for the subsequent school year, so these students would start the next year at second grade. The classroom teacher indicated that they would start second grade using a beginning second grade level book. The first grader, who showed the largest gain from the standarized testing, started the year at grade level and at the end of the intervention was one level behind in reading, or had a two month delay.

Table 4

Comparison of Basal Reading Levels of Resource Students from August, 1993 to March, 1994

		August, 1993		March, 1994	
Grade Level	Number of Students	Basal Reading Level	Basal Grade Equivalent	Basal Reading Level	Basal Grade Equivalent
1	1	3	1.0	7	1.4
2	3	7	1.4	8	1.7
2	1	7	1.4	9	2.0
3	1	9	2.0	11	3.0
3	1	10	2.5	12	3.5

The reading series used in the special education resource room was the Reading Mastery Series (1988). Students used grade-appropriate reading levels during the intervention plan. Stories at the first grade level did not lend themselves to the integration of reading and writing as well as the higher grade level series because of the stories limited content. Writing activities were based on phonetic rules or subject matter used in the reading series. At the first grade level writing of individual experiences was emphasized. The first grade student functioned at grade

level in the resource room, and would start second grade at a second grade level. Her ability to fluently read and comprehend stories at this level was adequate as assessed by teacher observation and writing skills.

The second grade reading series was used extensively in writing activities. The reading series components of phonetic concepts, character descriptions, story sequencing, and student predictions were easily integrated into the intervention plan involving student writing. Teacher observations and student writing suggested that students were able to read and comprehend material at this level. The students would finish the year almost completing the second grade series. The integration of writing acitvities slowed the pacing of the reading series. Therefore, students may not complete the reading series, but skill levels should be adequate to begin third grade in the third grade level series as evinced by teacher observation.

Third graders started the year reading in grade level series. Two students were divided into separate reading groups so that each could get the maximum benefit from the resource program. One student was able to read the stories without many mistakes the first time through. The other student needed to re-read stories due to weaker reading skills. Both third grade students will be approximately at the end of the first semester of the third grade series by the end of the school year. Factors affecting the slower pace of these students involved a lack of teacher familiarity with the text, a slower pace of stories due to intensive writing, and extensive third grade testing required by the state of all third grade students during the month of March. Recommendations will be to continue next year finishing the third grade reading series.

Students demonstrated a higher level of reading performance in the resource room than in the regular classroom. Their reading performance was also higher in the resource room than standarized test scores indicated. Student ability to perform at grade level in the resource room was evinced by teacher observations and a checklist of student reading errors (Appendix N: 56). Analysis of reading errors gathered by random sampling of second and third grade students

indicated that they were reading material with a 95 percent reading accuracy (Appendix O: 57). The accuracy remained constant throughout the reading series even though the words became more difficult and the passages became longer.

Table 5 conveys two types of reading errors that were monitored. The first errors involved self-correction of errors either through context or phonetic cues. The second type of error involved word substitutions, phonetic errors, or guessing. Review of checklists indicated most errors were in word substitutions that would not change the meaning of text, vowel errors, reversal of letter patterns, such as was and saw, and consonant blend errors, especially with "th" and "wh". Very few guessing errors were recorded (Appendix P: 58).

Table 5

Percentage of Student Reading Errors
from Reading Mastery Basal Reader
1993-94 School Year

	Percentage of Self-Corrected Reading Errors				Percentage of Non-Corrected Reading Errors			
Student	Dec.	Jan.	Feb.	Mar.	Dec.	Jan.	Feb.	Mar.
First Grade								
1	5%	44%	63%	45%	94%	56%	38%	54%
Second Grade								
4	58%	36%	55%	32%	42%	55%	45%	79%
5	39%	20%	46%	100%	36%	80%	55%	0%
6	53%	37%	40%	50%	47%	63%	59%	50%
7	64%	50%	55%	75%	36%	50%	44%	25%
8	57%	27%	26%	28%	53%	73%	57%	72%
9	42%	14%	—	—	58%	86%	—	—
Third Grade								
11	—	57%	58%	—	—	43%	42%	—
13	55%	46%	60%	—	45%	51%	41%	—

The first grader made the largest gains in self-corrections during the intervention plan. From December to January self-corrections increased from five percent to 44 percent and errors decreased from 94 percent to 56 percent. The third grade student who was new to the resource

program during the 1993-94 school year increased self-corrections from 55 percent in December to 60 percent in February and decreased errors from 45 percent to 40 percent during the same time span. Two of the six second grade students improved self correction and errors. The student population as a whole did not exhibit gains in self corrections and decreases in errors during the intervention plan.

Post-student interviews were administered in March 1994 (Appendix Q. 59)Pre- and post-student interviews, shown on Table 6, indicated student perceptions of reading and writing had improved at the end of the intervention plan. Four students had left the school so post-data was unavailable on these students. Student enjoyment in reading increased from 54 percent to 78 percent. One student's perception of reading changed for the worse. The post-interview was given after rigorous third grade testing required by the state. Frustration from the testing situation on reading tests may have been a factor in his response.

Table 6

Pre- and Post-Reading Interview Results
of Special Education Resource Students
during the 1993-94 School Year

Questions	September 1993	March1994
Enjoys reading	54%	78%
Knows a good reader	85%	100%
Internalizes good reading performance	38%	67%
Sounds out unknown words	38%	89%
Enjoys writing stories	85%	89%
Knows a good writer	62%	66%
Good story depends on topic	30%	44%
Has books at home	85%	100%
Has a library card	54%	78%
Is read to at home	62%	67%

67 percent of the students had internalized their perceptions of what was a good job in reading. Their explanations became more specific and they relied on their own reading skills rather than relying on others, as evinced by increases in sounding out unknown words from 38

percent on pre-test to 67 percent on post-test results. The pre-and post-interview suggested students had become more aware of the reading process. They indicated when they didn't know a word , they had strategies that they could use rather than asking others. The strategies they suggested involved focusing on letters or vowel combinations. Students indicating that they enjoyed writing stories more after the intervention plan increased from 62 percent to 66 percent. The data from the pre- and post-student interview indicated student perceptions of reading and writing improved. Their reasoning became more defined and their attitudes more positive.

Collaboration between the regular classroom teacher and the special education teacher during the intervention plan was minimum. Concerns of the classroom teacher were difficult to address in the special education resource program due to the amount of time the students were in the resource room and the intervention plan used in this study. Little time was available to concentrate on classroom teacher concerns that centered around the student practicing reading the basal stories or assistance on worksheets. Communication was documented during grading periods as to student progress and classroom teacher concerns about what they would like to be addressed in the resource room (Appendix R: 60). At the end of the intervention teacher conferences were held to discuss student progress and future resource help. The type of activities and direction of the classroom teachers was not parallel to the resource intervention program. The intervention program lacked follow-through into the regular classroom setting.

The terminal objective required students to improve their perceptions about the reading and writing process. Pre-and post-interviews reflected these changes. Student abilities to read at grade level demonstrated an improvement. Students were able to read with 95 percent accuracy in grade level material. They were able to interact with what they had read by answering higher-order level questions and writing about what they had read. The students were able to use self-corrections when reading grade level material by using textual or phonetic cues rather than relying on others to correct their mistakes. Teacher observations indicated that the students in the resource room had become good readers, despite low standard test scores.

REFLECTIONS AND CONCLUSIONS

The intervention plan improved student perceptions of the reading and writing process and helped them become more aware of the reading process. Student abilities to make sense of what they had read and write about it afterward was evinced during the intervention plan. Teacher observation indicated students enjoyed reading and predicting outcomes of stories they were reading. Student enthusiasm was observed by the willingness to read and anticipation of the next day's story. Students who displayed quiet oral reading styles at the beginning of the school year increased their volume during the period of the intervention, indicating more confidence in their reading. Some classroom teachers indicated that their students had expressed an enjoyment in the resource reading class. Personal student comments about the resource room reading class were also expressed. Students stated that they thought reading in the resource room was "easier and more fun," even though the stories were commensurate with classroom reading material. Student attitudes and perceptions of how well they had read and had written appeared to contribute to their motivation. Motivation to read and write in turn gave the students more opportunity to practice.

Standarized test scores and classroom performance did not reflect the positive changes noted in the resource room. Insufficient time may have been an interferring factor. Intervention should be monitored over a longer period of time. Classroom teaching methods and student attendance may have had an impact on the test results. Students should be evaluated in different teaching situations.

Many classroom teachers continue to show concerns for their students reading progress. Teacher concerns were due to students' inability to complete basal readers, workbook pages and the accompaning diftos that were felt necessary for reading success. Teachers who were more positive about their students' progress did less evaluation of students by textbook and diftos, and more by student performance.

Obstacles still exist in the intervention plan designed in this study. Collaboration between classroom teacher and resource teacher is needed. The district must allow teachers time for collaboration. As the situation currently exists, teachers do not share common lunch periods and before and after school time is spent on planning or meeetings. No time is built into teachers' schedules for collaboration. Staff development in the areas of integrating reading and writing, authentic assessment, and higher order thinking should be required for the teaching staff.

The assessment of student performance needs to involve more authentic assessment. The students need to be more involved not only in their learning process, but in the evaluation process. Students need to evaluate their reading and set goals on how to improve reading skills. Students need to actively evaluate their reading performance. Students must continue to internalize the reading process through the help of writing, metacognition, and making reading a meaningful process.

Chapter 6

DECISIONS ON THE FUTURE

The Solution Strategy

Analysis of the data from this study indicated that the integration of reading and writing should be continued. However, modifications to the original design are necessary. Better collaboration with the students' regular classroom teachers would improve the effectiveness of the program. The expectations of the writing involving higher order thinking skills were over-extended. Development of reading and writing skills should occur in a sequential order, using realistic expectations for each grade level, and in collaboration with the teachers involved with the student.

Expectations in the area of writing, using higher order thinking skills, were unrealistic. The intent of the original implementation plan addressed sequencing, comparing and contrasting, describing personal reactions, and predictions. Prior to the development of higher order thinking skills, basic reading readiness skills were necessary at the first grade level. The acquisition of consonant and short vowel sounds, basic sight vocabulary, and patterning of consonant-vowel-consonant words were necessary before writing could begin at the first grade level. Time constraints also limited the types of higher order thinking skills that could be integrated into the second and third grade curricula.

The first stage of writing involved descriptive writing using concrete examples. This stage did not evolve into descriptions containing personal reactions as the original implementation plan suggested. First grade students spent much of their time practicing writing of descriptive stories. The next stage involved sequencing information. First grade students did some activities

involving sequencing. A large portion of the second grade implementation plan concentrated on writing sequential information. The higher-order thinking skills which involved writing paragraphs using compare and contrast were introduced at the third grade level. Toward the end of the intervention plan, first graders were capable of writing basic prediction sentences. Second and third graders were capable of basic predictions throughout the study.

The study showed the curriculum areas should not be addressed in isolation nor should remediation be isolated from the regular curriculum. There should be a comprehensive plan to improve the reading skills of students through the use of writing. Remediation of at-risk students should occur within a coherent, comprehensive program designed to address individual needs. The implementation of writing to support the reading program encouraged students to progress at their own pace within the whole classroom structure. The major focus of the intervention plan was to integrate reading and writing in a way that would have impact for each individual student.

Additional Applications

In order to facilitate comprehensive planning, efforts should be made to work collaboratively with teachers to develop a reading and writing intervention program that will work progressively through the grade levels. The study indicated progressive development of higher-order thinking skills. Individual students not performing at the district's expectation levels should be identified and programs estab ished to address their needs in correlation with the classroom curriculum. As part of the comprehensive planning, staff development pertaining to the integration of reading and writing should occur to assist in the design and implementation of the program. This program would provide the opportunity for students to interact with their reading in a resultatory way.

Dissemination of Data and Recommendations

The results of this study indicated that collaboration between itinerant teacher and classroom teacher could contribute to the program success. Itinerant teachers should be actively

integrating their curriculum with classroom teachers. To further monitor the success of the intervention plan, follow-up data should be collected. Staff development should be provided to further incorporate the program into more classrooms and grade levels. Faculty should be presented with the information collected in this study to provide them with a rationale for program implementation.

This study was developed and implemented by a special education resource teacher. The intervention programs involved pulling students out of their regular classroom for a thirty minute period, four to five days a week. The regular classroom teacher was not involved in the intervention program. The special education resource program did not show overall student gains, but results varied from student to student. The resource program included the use of direct teacher instruction and use of personal experiences at all grade levels. The second grade program used cooperative grouping on some activities. The third grade activities incorporated some concepts taught in the regular science classroom. These factors were elements in the intervention program. Obstacles to the resource program involved a lack of student attendance, a minimal amount of time allowed in the resource program, and a lack of collaboration with the regular classroom teacher. Problems in student attendance were related to the regular classroom teacher's inability in remembering to send the students at the scheduled times. The amount of time the students spent in the resource room was dictated by the state law requiring least restricted environment for special education students. A lack of coordination between classroom teacher and specialist was due to lack of planning time with teachers and lack of understanding of the program by the classroom teachers.

Programs needing to address students with delays must rely on support programs that integrate the classroom program with special services. The material and concepts must be consistent between programs in order to help students make the proper connections. Data from this study on the implementation of reading and writing programs should be presented to faculty so that better programs could be developed. Staff development should be implemented to make

a more integrated curriculum for the student in need of remediation. Monitoring of the intervention program should include a more comprehensive data collection in a longitudinal study.

The critical variable needed for the success of this intervention plan involves teacher competence and commitment. Extensive materials are not required for the success of the integration of the reading and writing program. In fact, the program was more effective when existing reading programs rather than supplemental readers were used in the writing process. It helped provide a better sequence of reading skills. However, teachers with experience in teaching and developing higher order thinking skills as well as the development of writing skills in students would be desirable. Supportive skills in cooperative learning and multiple intelligence would also enhance the program's effectiveness. Support from the district in providing and mandating staff development for teachers in the skills necessary to implement the plan is critical for its success. Finally, teachers should be given the opportunity to assess and evaluate the intervention program throughout the school year and discuss their concerns with colleagues.

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APPENDICES

Appendix A

Standardized Test Results
of Special Education Resource Students
Who Qualified for Reading Services
for the 1993-94 School Year

Student Number	Grade Level	Standard I Q Test Result	Academic Reading Test Results (in Grade Equivalent)	Reading Results as Standardized Scores
1	1	100	< 1 0	63
2	1	109	< 1 0	66
3	1	83	< 1 0	78
4	2	124	1 5	86
5	2	92	1 1	80
6	2	96	1 2	89
7	2	85	1 6	80
8	2	91	1 4	78
9	2	85	1 4	85
10	2	90	< 1 0	76
11	3	100	1 8	79
12	3	83	1 7	69
13	3	101	1 4	78

Standardized I Q tests included: Stanford Binet Intelligence Scale, Kaufman Assessment Battery for Children, Wechsler Intelligence Scale of Children (Third Edition)
Standardized academic tests included: Kaufman Test of Educational Achievement, Woodcock Johnson Psycho-Educational Academic Achievement, Woodcock Johnson Psycho-Educational Academic Achievement (Revised)

Appendix B
Curriculum Ranking

		Holt, Rinehart, and Winston Reading	Houghton-Mifflin English	McMillan/ McGrace-Hill Math	Holt, Rinehart, and Winston Social Studies	Merrill Science
Students' Original Writing	5		●			
	3			●		
	1	●			●	●
Integration of Reading and Writing Processes	5					
	3		●	●		
	1	●			●	●
Higher Order Thinking Skills in Written Form	5			●		
	3		●			
	1	●			●	●

Code 5 = Very Evident

3 = On Occasion

1 = Non Existent

Appendix C
Resource Students Reading Interview
September 1993

1	Do you like to read? Why?	Yes 7	No 5	Occasionally 1
2	Do you know a good reader?		Yes 11	No 2
	Who? How do you know they are a good reader?			
3	How do you know when you do a good job reading?	Tells Me 2	Don't Know 5	Can Read 5
				Other 1
4	What do you do when you come to a word you don't know?	Sound Out 5	Ask 6	Don't Know 2
5	Do you like to write stories? Why?	Yes 11	No 2	Occasionally 0
6	Do you know someone who writes good stories? Who?		Yes 8	No 5
7	What makes a good story?	Topic Responses 4	Story Elements 3	Other 2
				Don't Know 4
8	Do you have books at home? Which ones are your favorite?		Yes 11	No 2
9	Do you have a library card?		Yes 7	No 6
10	Does someone read to you at home? Who?		Yes 8	No 5

How are you? Fine.
Can ~~go to the~~
Can we go to the
computer? Yes

The frog is on the dog.
The boat floats on the
water.

I Like to make a ice
crean cone. I Like to
make a ics cream cone.
He ate it at The ice
Creamshop. Next Time
I will got a big ice
Cream cone. He paid a
Lime for his packet so
he got ice.

Dan moped because he didn't like his job. Don heard a noise down stairs. It was dim down thaer. He saw a woman. She gave him a dime. He tapped the dime three times. He became Super man.

Don did bad thaings because he wanted to be a superman. He made holes in the store and broke a mor. He Made a big hole in the school.

Don wanted to be a superman so he did good things. He clean up the hat shop. He helped the Littman carried the bags. Don gave the man the dime so he could be the super man.

My mom took me out to a movie Call Jurassic park.

My mom is sick.
Ny mom is burning.
She has the flue.

BEST COPY AVAILABLE

All plants grow from seeds. First seeds need water, light and soil to grow. Next seeds grow roots. Then seeds open up. After that plants sprout out of ground. Then plants grow tall and blossom. Before the blossoms develop seeds. Finally seeds are replanted by wind, people, animals, fur and drop to the ground. The plant cycle starts over.

Dec. 1, 1-13

Today I ate trash.
It was full but I got fat.
I see a black cat at.
me mirror full of me
I feel horrible. The
rat told me about a diet.
but I don't know what a diet
is. He told me to stop
eating.

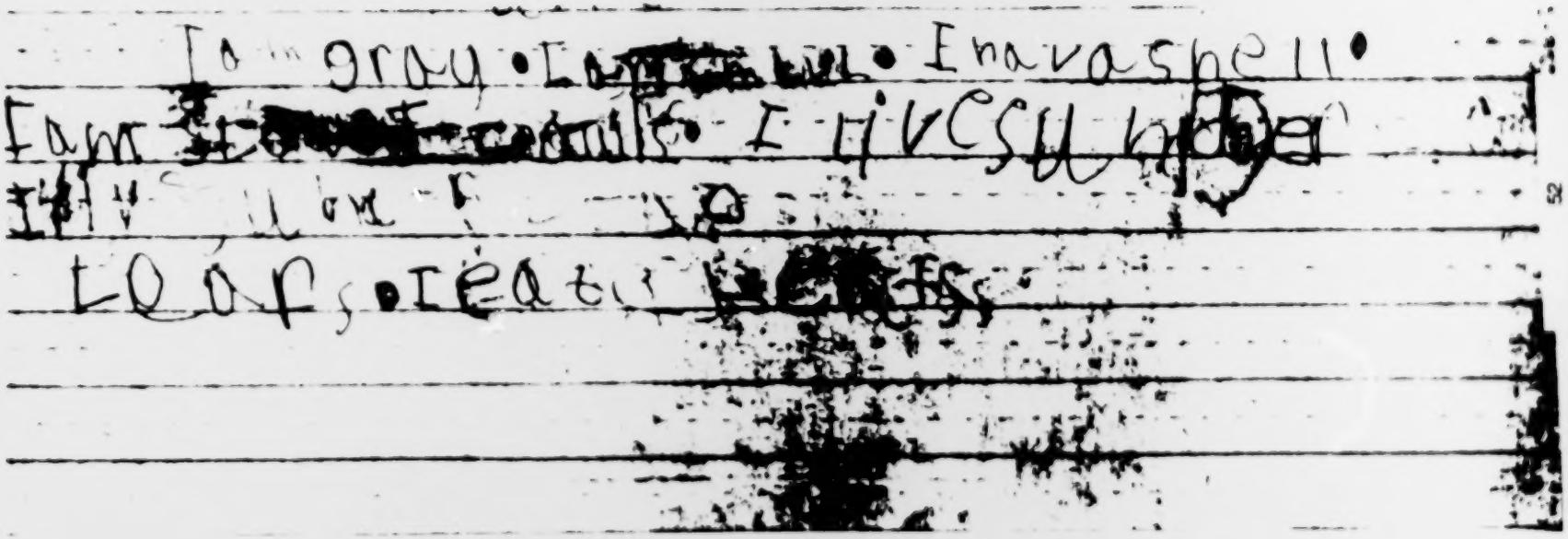
Dec 2. 1-13

I went to the helth spa.
The helthspe went near a supermaket.
But I didn't stop I went to the
A white poodles ran the health spa.
I don't like the poodles. They said to
me "I'm not sure we can help a dog.
as fat as you."

Dec. 3

Today I went to the Pool.
I had to exercise for a hour everyday.
I couldn't do it. I could run five meters
I couldn't even eat.

BEST COPY AVAILABLE



BEST COPY AVAILABLE

5 - 3 = 2

All the ducks were on the dock. 5 ducks were on the [illegible] 3 ducks went in the water. 2 ducks were left

63

Although I already knew
about bats I learned something
new. I knew bats look like rats
with wings. Bats are brown or black
I learned bats are the only mammal
that can fly. I new bats live in
trees or caves and come out at night.
I learned bats are the only mammal
that can fly I knew bats drink
ox's blood. I learned Bats eat 6,000 insects
now I knew but are blind but have
good hearing. bats swoop on something.
they hear I learned the echo is off the
the bat The shape of the insect.

BEST COPY AVAILABLE

Kids should not go to school year round. Kids should take breaks. Kids will get a headache. Kids have to play. You need to Exercies. alot. you need to get fresh air. If you do a diet you will feel good. I would not agree this. You can't get play at your bodies. you just need to play. What if you were at school you could. what would you do?

BEST COPY AVAILABLE

	Use context for unknown words	Make corrections in text when reading
yes		
no.		
yes		
no.		
yes		
no		
yes		
no		
yes		
no		
yes		
no		
yes		

Appendix O

Percentage of Total Reading Errors
of Reading Mastery Series Stories
of 2nd Grade Students

Date	Numer of Words per Story	Percent of Reading Accuracy
December 14, 1993	178	95%
January 28, 1994	267	93%
February 22, 1994	337	94%
March 15, 1994	265	97%

Percentage of Total Reading Errors
of Reading Mastery Series Stories
of Individual 3rd Grade Students

Date	Numer of Words per Story	Percent of Reading Accuracy
December 21, 1993	250	97%
January 11, 1994	355	95%
Januray 11, 1994	292	98%
February 16, 1994	423	99%
March 22, 1994	368	100%

		Use context for unknown words (-0)	Make corrections in text when reading
27	yes	tramping sounds trained easy dream stationed decided spend	couldn't I ready person of from
	no	least last saw-was binoculars with-when of from	hope-hop great
28	yes	fighting holler stationed spending settled impression shore rushing these	mean-mad what that keep-kept would-were mild dirt saw-was
	no	impression-motion these mean-mad Doris can could	resting looked slowly grass. thought
24	yes	seemed	
	no	yellow tall	same small
20	yes		
	no		
	yes		
	no		
	yes		
	no		
	yes		

BEST COPY AVAILABLE

Appendix Q
Resource Students Reading Interview
March 1994

		Yes	No	Occasionally
1	Do you like to read?	7	1	1
	Why?	—	—	—
			Yes	No
2	Do you know a good reader?		9	0
	Who?		—	—
	How do you know they are a good reader?		—	—
		Tells Me	Don't Know	Can Read Other
3	How do you know when you do a good job reading?	1	1	6 1
			Sound Out	Ask Don't Know
4	What do you do when you come to a word you don't know?		8	1 0
		Yes	No	Occasionally
5	Do you like to write stories?	8	1	0
	Why?	—	—	—
			Yes	No
6	Do you know someone who writes good stories?		6	3
	Who?		—	—
		Topic Responses	Story Elements	Other Don't Know
7	What makes a good story?	4	2	2 1
			Yes	No
8	Do you have books at home?		9	0
	Which ones are your favorite?		—	—
			Yes	No
9	Do you have a library card?		7	2
			Yes	No
10	Does someone read to you at home?		6	3
	Who?		—	—

Appendix R
Monitor Progress Report

Special Education Services

Dear Teacher

In an effort to more closely monitor some of the Marquette School students, the Resource Teacher is requesting that you complete this form.

STUDENT _____ TEACHER: _____ _____ GRADE: _____

ACADEMIC	Completes Assignments			Seems to Understand Concepts			Asks for Help as Necessary	
	All	Some	Few	Yes	Some	No	Often	Seldom
Reading								
Math								
Written Language								
Social Studies								
Science								

SOCIAL	Appropriate	Inappropriate	Improved
Interacts with teacher			
Interacts with peers			
Self directs him/herself in unstructured situations			
Handles frustration			
Emotional reaction			

Please write a statement concerning this student's current functioning: _____

_____

_____

Please identify any concerns you have for this student: _____

_____

_____

Suggestions you would like to have addressed by the Resource Teacher: _____

_____

_____

QUARTER GRADES:

Reading _____ Science _____

Spelling _____ Social Studies _____

Language _____ Handwriting _____

Math _____